COMPARATIVE STUDY OF ANTHROPOMETRIC AND PSYCHOLOGICAL CHARACTERISTICS OF KARATE AND TAEKWONDO PLAYERS OF ASSAM

A

RESEARCH PROPOSAL

Submitted To The
Swami RamanandTeerthMarathwada University, Nanded
for
Doctoral Research (Ph.D.) in the Faculty of
Physical Education and Sports

By

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May 2019

TABLE OF CONTENTS

S.NO.	PARTICULARS	PAGE
1.01	Profile and Statement of the Problem	1-5
1.02	Significance of the Study	5
1.03	Objective of the Study	5
1.04	Delimitation of the Study	6
1.05	Hypothesis	6
1.06	Definition of Important Terms	7
1.07	Review of Related Literature	8
1.08	Subjects and sampling	10
1.09	Variables	10
1.10	Inclusion and exclusion criteria	10
1.11	Tools to be used	11
1.12	Administration of the test	11
1.13	Statistical analysis	12
1.14	Presentation of Results	12
1.15	Analysis of the Results	12
1.16	Discussion on Findings	12
1.17	Summary, Conclusion and Recommendations	12
REFERENCES		13

CHAPTER I

1.01 INTRODUCTION

For thousands of year, and in all societies, man has subconsciously developed his basic instinct for play into the organization of complex games and sports having definitive rules and specific boundaries. Such organization has been undoubtedly reinforced by wide social acceptance, with participation being enhanced by the popularity of sports to such an extent that it has now become an integral part of our modern society. The organizing of game and sports into a complex structure has developed to such a super technological level in some sports that are many people concerned that the play element may disappear entirely from sport. Although this is mainly a view point concerned with "values". It is obvious importance for people involved0. in sports to understand exactly what is meaning term game and sports for them, and to determine what role it possesses in the large context of sports.

Taekwondo is a Korean martial art, characterized by its emphasis on head-height kicks, jumping and spinning kicks, and fast kicking techniques. Taekwondo is a combative sport and was developed during the 1940s and 1950s by Korean martial artists with experience in martial arts such as karate, Chinese martial arts, and indigenous Korean martial arts traditions such as Taekkyeon, Subak, and Gwonbeop.The oldest governing body for taekwondo is the Korea Taekwondo Association (KTA), formed in 1959 through a collaborative effort by representatives from the nine original kwans, or martial arts schools, in Korea. The main international organisational bodies for taekwondo today are the International Taekwon-Do Federation (ITF), founded by Choi Hong Hi in 1966, and the partnership of the Kukkiwon and World Taekwondo (WT, formerly WTF), founded in 1972 and 1973 respectively by the Korea Taekwondo Association. *Gyeorugi*, a type of full-contact sparring, has been an Olympic event since 2000. The governing body for taekwondo in the Olympics and Paralympics is World Taekwondo.

Anthropometry constitutes the earliest form of measurement in physical education, as one might surmise. Study of the human physique and its proportions began many centuries age. The early beginning can be traced from the remote civilization of India, where a treatise called "SilpiSastri" analyzed the out-line of the body by dividing it in 480 parts. Anthropometry evolved in the quest to determine the ideal body proportions, artists and sculptors directed their study it is shown by the work in early civilizations.

Anthropometrical measurement for assessment of physical status was expanded quite naturally to include consideration of body types and relation to Physique to one's health, immunity from disease. Postures, physical performance and personality qualities. Hippocrates first performance and personality qualities. Hippocrates first realized and classified human beings according to two basic physique. Long and thin or short and thick. Kretschmer, the father of modern body or Samato type, defined three types by adding an in between and referred to them as aesthetic (Lean) athletic and picnic (heavy).

Sports performance of higher levels in versions games and sports are influenced by many factors such as physique, motor abilities, techniques, tactics psychological and physiological abilities. The ability of a person to perform in any game is obviously limited by his physical characteristics, but beyond these broad restriction psychological factors play a decisive role. Many coaches, trainers and physiologists believe that future records will be broken primarily because of increased attention to the psychological features of the personality more than the physiological and mechanical aspects.

Psychology as behaviour science is becoming and getting a lot of popularity in competitive sports in these days throughout the world. Many psychologists are being employed to guide and help the trainers and coaches to deal with their players. Advance countries in sports like USA, USSR, UK, Germany and China etc. engage a psychologists with each team to train the team for higher level of competition, psychologists is an important member of the team of

scientists, which include coach, physiologists, sports medicine exports etc. which prepare team for higher level competition.

1.02 STATEMENT OF THE PROBLEM

The purpose of this study is to compare the anthropometric Psychomotor and psychological characteristics of karate and taekwondo players of Assam. Therefore, the present investigator has formed the problem entitled, **"Comparative study of anthropometric and psychological characteristics of karate and taekwondo players of Assam".**

1.03 SIGNIFICANCE OF THE STUDY

The study will be significant in the following ways:

- The result of this study may evaluate the present status of anthropometric and psychological characteristics of karate and taekwondo players of Assam.
- The study will add some new knowledge in the field of anthropometric and psychological characteristics and its changes.
- The study will give about the knowledge about the impact of anthropometric and psychological characteristics level, which regulate the physical and mental fitness that are beneficial for the karate and taekwondo players.
- This study will further help to the researchers who are finding out other variables regarding this type of research.
- This study may guide not only the students of Assam but also the students of other state.

1.04 OBJECTIVES OF THE STUDY

The purpose of the present investigation is to compare the anthropometricpsycomotor and psychological characteristics of karate and taekwondo players Assam. The objectives of the present study will be aimed at two main points-

(1) To compare the anthropometric and psychological characteristics of karate and taekwondo players.

(2) To evaluate the comparison of anthropometric and psychological characteristics of karate and taekwondo players.

1.05 DELIMITATION OF THE STUDY

The following delimitations of this research study should be acknowledged:

- The age of the subjects will be ranging from 18 to 22 years.
- The study will be delimited to maximum 1000 subjects (300karate and 300 taekwondo players) of Assam.
- The study will be delimited to specific test and questionnaire both.

1.06 HYPOTHESES

H_1-It is to be hypothesised that there may be significant differences of standing heightbetween karate and taekwondo players of Assam.

H_2-It is to be hypothesised that there may be significant differences of leg lengthbetween karate and taekwondo players of Assam.

H_3-It is to be hypothesised that there may be significant differences of foot lengthbetween karate and taekwondo players of Assam.

H_4-It is to be hypothesised that there may be significant differences of foreleg lengthbetween karate and taekwondo players of Assam.

H_5-It is to be hypothesised that there may be significant differences of thigh lengthbetween karate and taekwondo players of Assam.

H_6-It is to be hypothesised that there may be significant differences of calf girth between karate and taekwondo players of Assam.

H_7-It is to be hypothesised that there may be significant differences of thigh girth between karate and taekwondo players of Assam.

H_8-It is to be hypothesised that there may be significant differences of hip width between karate and taekwondo players of Assam.

H_9-It is to be hypothesised that there may be significant differences of shoulder width between karate and taekwondo players of Assam.

H_{10}-It is to be hypothesised that there may be significant differences of personality between karate and taekwondo players of Assam.

H_{11}-It is to be hypothesised that there may be significant differences of self concept between karate and taekwondo players of Assam.

1.07 DEFINITION OF IMPORTANT TERMS

Anthropometry-

Anthropometry is the science of obtaining systematic measurements of the human body. Anthropometry first developed in the 19th century as a method employed by physical anthropologists for the study of human variation and evolution in both living and extinct populations. In particular, such anthropometric measurements have been used

historically as a means to associate racial, cultural, and psychological attributes with physical properties. Specifically, anthropomorphic measurements involve the size (e.g., height, weight, surface area, and volume), structure (e.g., sitting vs. standing height, shoulder and hip width, arm/leg length, and neck circumference), and composition (e.g., percentage of body fat, water content, and lean body mass) of humans

Psychology-

Psychology isthe science of behavior and mind (not to be confused with neuroscience, which studies the neural underpinnings of psychological phenomenaex. neural circuits). Psychology includes the study of conscious and unconscious phenomena, as well as feeling and thought. It is an academic discipline of immense scope. Psychologists seek an understanding of the emergent properties of brains, and all the variety of phenomena linked to those emergent properties. As a social science it aims to understand individuals and groups by establishing general principles and researching specific cases.

CHAPTER II

REVIEW OF RELATED LITERATURE

Muthiah and Venketswarlu (1973) studied the Indian track and field athletes and noticed the throwers to be heavier, taller and older than other athletes. Among runners, the age increased and the height weight decreased with the increase in the distances they ran. The jumpers and the hurdlers were taller and heavier than sprinters but were shorter and lighter than throwers. The decathlon athletes were the second heaviest as they were all rounders.

Benny Kuriakose (1994) conducted a study of anthropometric measurements and body composition variables on judo players. Nine anthropometric measurements and three body composition variables

were taken for this study. Judo players ability was taken as the criterion measure and all the variables were taken as the independent variables. Pearson's Product Moment Correlation was used to find out the relationship between anthropometric measurements and criterion measure. A multiple correlation was computed to find out the combined effect of the anthropometric measurements to judo performance. He concluded that: (i) performance in judo is positively and significantly related to chest girth; (ii) judo performance is negatively and significantly related to ponderal index which means that for better judoperformance judoka should possess greater body weight in proportion to body height, (iii) Lean body mass, upper arm/force arm ratio and sitting height are the most important predicting variables under the limitation of this study.

L.Wilbar Martin (1995) conducted a study by comparing the selected anthropometric measurements and physical .performance between Mexican-American and Anglo-American adolescent boys. Also comparisons of body size, body structure and physical performance were made between the subjects at adjacent age levels within each individual racial group. The body size was assessed by standing height and body weight measurements. Body structure was interpreted as upper arm girth, chest girth, abdominal girth, thigh girth and calf girth measurements. The physical performance was determined by selected motor ability tests. It was concluded that excluding standing height, the Mexican and AngloAmerican subjects did not differ in body size and body structure and also these two races did not differ in physical performances.

Gooden (1989) conducted a relationship study on selected anthropometric measurements of leg and foot to speed and vertical jump of male collegiate track and field athletes. Ss = (n =32) were assigned to five groups according to their respective events: short sprinters, long sprinters, middle distance runners, distance runners and jumpers. All the subjects were exposed to a one week training period before the testing of the vertical jump and 50 yard dash. An ANOVA was used to

determine difference between performance scores of all five groups in the vertical jump, 50 yard dash and selected anthropometric measurements. The Newman-Koal follow up test was employed to make multiple .comparisons and a multiple was used to determine the relationship of selected anthropometric measurements to vertical jump and 50 yard dash. There was a high positive relationship between speed of the 50 yard dash and vertical jump. There was no significant relationship between the 12 anthropometric measurements and speed in the 50 yard dash. The short sprinters and jumpers performed significantly greater in the vertical jump and 50 yard dash when compared to other groups. The short sprinters and middle distance runners performed significantly greater in vertical jump and the 50 yard dash when compared to the distance runners.

CHAPTER III

METHODOLOGY

1.8 SUBJECTS AND SAMPLING

The present study will be conducted on a maximum of 200 taekwondo players from various colleges and taekwondo academy of Assamand their age will be between 18-26 years. Simple random sampling method will be used according to the availability of the subjects.

1.9 VARIABLES

- **Anthropometric variables-**
  - Standing height
  - Leg length
  - Foot length
  - Foreleg length
  - Thigh length
  - Calf girth
  - Thigh girth
  - Hip width
  - Shoulder width

- **Psychological variables-**
  - Personality
  - Self concept

1.10 INCLUSION AND EXCLUSION CRITERIA

Inclusion

- Only the college and taekwondo academy players of Assam will be included.
- Within 18-22 years will be included.
- Only interested players will be selected.

Exclusion

- Above 22 years will not be included.
- Girls will not be included.
- Subjects below 18 years will be excluded.

1.11 TOOLS TO BE USED

- Standing height- with the help of Wall scale
- Leg length-with the help of flexible steel tape
- Foot length-with the help of spreading calipers
- Foreleg length-with the help of flexible steel tape
- Thigh length-with the help of flexible steel tape
- Calf girth-with the help of flexible steel tape
- Thigh girth-with the help of flexible steel tape
- Hip width-with the help of spreading calipers
- Shoulder width-with the help of spreading calipers
- Personality-with the help of 16 P.F. Questionnaire by Raymond B. Cattel
- Self concept-with the help of Self concept Questionnaire by Dr. R.K. Saraswat

12 ADMINISTRATION OF TEST

In order to select the subjects for research purpose simple random sampling technique was used. The researcher will first locate the

various colleges and taekwondo academy in Assam. Then he will collect the subjects by doing simple random sampling. Then he will collect the data of anthropometric and psychological characteristics of karate and taekwondo players by particular test and by distributing questionnaire to the students. After that the researcher will compare the low fit players data with the high fit players data by doing independent t-test and see the differences. However, all the items include in the above mentioned test were explained to each subject to take the test.

CHAPTER IV

1.13 STATISTICAL ANALYSIS

The data collected will be processed for descriptive statistics and Mean & SD will be calculated andIndependent t-test will be applied to process the data.

1.14PRESENTATION OF RESULTS

The results will be presented into tabulated form with necessary labeled illustrations and graphs for better understanding and interpretation of the research. The results will be also presented in the comparative format with the graphical representation wherever required.

1.15 ANALYSIS OF THE RESULTS

The data collected will be segregated according to the hypotheses to be tested and the necessary statistical procedures are to be employed interpretation of the data. The result will be obtained by applying the Independent t-test and predictive statistics. Further, the necessary findings will be presented systematically.

1.16 DISCUSSION ON FINDINGS

The results and findings will be interpreted and discussed with reference to the earlier supportive researches and accordingly the hypothesis will be tested whether it is

accepted or discarded. Each hypothesis individually will be discussed to make a definite conclusion

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

A separate chapter on summary, conclusion and recommendation will be prepared. However, on the basis of trend of the result and findings, the conclusions will be drawn. The recommendations will be suggested according to the nature of conclusive results. This piece of research may help to establish proper skills to manage the available facilities and may enhance the performance of the Indian gymnasts.

TIME SCHEDULE

Almost primary level research has been started from may 2019.

The research study will follow following time schedule.

May 2019 to June 2019 Research Proposal submission.

July 2019 to December 2019 preparations for Chapter 1st and visits to the tribal and non tribal school for Primary data collection.

January 2020 to August 2020 Selection of the Subjects and preparation for questionnaire for data collection.

September 2020 to February 2021 Conduct of Interviews and data collection by questionnaire.

March 2021 to May 2021 Data Analysis.

June 2021 to August 2021 Report writing , Synopsis Submission and preparation for Pre-Viva voce.

September2021 Onwards Thesis submission.

REFERENCES

Almond, L. (1983). "Reflecting on Thesis, A game Classification Bulletin of Physical Education", vol.19(1),pp.33-36.

Bandyopadhya SC (2000). "Relationship of Selected Anthropometry Measurements, Physical fitness and Motor Ability to socur skill performance", M.P.I Thesis Jiwaji University, Gwalior.

Benny, Kuriakose (1994). "Relationship of selected anthropometric and Physical Performance Measure to running & Jumping", Research Quarterly, vol.35,p. 707.

Bhatti, A.S. (1987). "Psychological and Anthropometric Differentials of Athletes and Non (Mon)", Unpublished Thesis Submitted to KUK. For the Ph.D. Degree in Physical Education.

Cape Town MetropolePaediatric Interest Group. (2009). Anthropometry Guideline: Paediatrics. pp. 4-81.

Dhillon G.K. (1981). "A Comparative Study of Personality Characteristics adjustment and motivation level of non participants and participant children of secondary school in physical activities", Unpublished doctoral thesis Punjabi University, Patiala.

Hardy L., Jones G and Gould D. (1996). "Understanding Psychological Preparation for Sports", Theory and practice of Elite Performs Wiley Chichester.

https://en.wikipedia.org/wiki/Psychology (6/05/2019)

https://en.wikipedia.org/wiki/Taekwondo (6/05/2019)

L. Wilber Martin (1995). "Relationship between flexibility Anthropometry and Somototype of college men", Research Quarterly, 20 pp. 402-415.

Mangal S.K. (1984). "Advanced Educational Psychology", 1st Edition, Prentice Hall of India Limited, New Delhi

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